

EXHIBIT 'H'

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1 going to make a given order and then scheduled that
2 order through a master scheduling system. That was
3 pretty much it.

4 Q. Did you --

5 A. And I also expedited once we started the
6 order to make sure it got through on time.

7 Q. So for that job would you go onto the
8 floor where production was happening and visit the
9 various departments?

10 A. I would, yes.

11 Q. Could you describe I guess just so I can
12 get a picture of what the process was kind of as best
13 you can from the beginning to the end what would be
14 the first thing that was done when an order would
15 come in for?

16 A. Okay, the first thing was the assignment
17 of raw material and we had a group who would go out
18 into the storage area where we started with what we
19 called extruded hollowed tubes and they would go out
20 and put aside with a ticket on it the number of
21 pounds we requested and what we called the traveler.
22 It went around with the tubing then to be made into
23 an order. Do I understand you, you want to hear what
24 the process is to make the tube?

25 Q. Yeah, just from the beginning to the

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1 what was next?

2 A. At that point it needed to be cleaned
3 and we would remove it, cut the tag off, it became
4 scrap and the remaining part of the tube that had
5 been drawn over the mandrel was put into a degreaser
6 and the lubricant that was on there would be removed.

7 Q. Okay.

8 A. And then from there it went to a furnace
9 so that it could be annealed and then we would start
10 that cycle all over again. We took it down in small
11 drafts.

12 Q. Could you just describe briefly what the
13 annealing process, what that means, I've heard the
14 word but I don't understand, what is that?

15 A. Annealing is a heating to restore the
16 properties of the metal to a ductal condition, for
17 instance, when you draw a piece of metal 300 series
18 stainless, it might go from a tensile strength of
19 about 90,000 PSI all the way up to a tensile strength
20 of about a hundred and 40, a hundred and 50 thousand
21 PSI. And, Marc, you can't just take that because it
22 would break if you tried to draw it in further. So
23 you have to soften it and that's what these annealing
24 processes are.

25 Q. Okay. Let's just go back through these

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1 end.

2 A. Okay.

3 MR. AGNELLO: Marc, do you want like a
4 general process or do you want him to go into the --
5 BY MR. DAVIES:

6 Q. Well, that was good so far, I mean
7 you're probably the person who could best describe
8 it.

9 A. Okay, we laid it out as we call it. The
10 next thing that would happen for the most part was
11 the material was cleaned in an acid bath. Following
12 that we would put a tag on the end. In order to pull
13 a tube through a die you must switch the end out, we
14 called it a tag. And then you would stick that tag
15 through the die and a pair of pliers would clamp it
16 and begin to pull it through the die down the length
17 of the bench.

18 Q. What kind of die are you talking about?

19 A. They were made out of carbide, some were
20 made out of carbide and diamond.

21 Q. And what was the purpose of the die
22 again?

23 A. To reduce the size of the tube over a
24 mandrel.

25 Q. So after you pulled it through the die,

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1 steps. I'll ask you a little bit about how you
2 handled the materials.

3 The second step you talked about
4 cleaning the material in the acid bath, do you recall
5 what kinds of acids you used?

6 A. I do.

7 Q. What were they?

8 A. Nitric mixed with water.

9 Nitric/hydrofluoric mixed with water. Sulfuric mixed
10 with water and hydrochloric mixed with water.

11 Q. And why did you have two different types
12 of acids?

13 A. Two reasons, first of all, some of the
14 surfaces when we started with them were not as
15 conducive to holding the lubricant as we would like.
16 So we would in a sense not only clean them but we
17 would pickle the metal so that it had a more -- had a
18 rougher surface, that's the best way to put it. So
19 that the lubes would adhere better when they went on.
20 So we might use a combination of nitric/hydrofluoric
21 and water for that. In another cases we just simply
22 wanted to remove dirt, we would use nitric water. In
23 other cases it depended like on the alloy, some of
24 them responded better to sulfuric and water rather
25 than nitric and water. Depending on the chemical

6 (Pages 18 to 21)

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1 acid in that time period?
 2 MR. AGNELLO: I think that --
 3 THE WITNESS: No.
 4 MR. AGNELLO: Okay, I'm sorry, I think
 5 that answered the question.
 6 MR. DAVIES: I wasn't sure if that's --
 7 MR. AGNELLO: But the answer is the
 8 same.
 9 BY MR. DAVIES:
 10 Q. Okay. How about the later time periods,
 11 say, the late '90s, early 2000 before you retired, do
 12 you recall what you spent on hauling of waste acid?
 13 A. No.
 14 Q. Now, what do you remember about Waste
 15 Conversion, for instance, do you recall whether they
 16 had logos on their trucks?
 17 A. I don't recall.
 18 Q. Do you remember anything about the
 19 trucks themselves?
 20 A. The ones I saw were in excellent
 21 condition. But I don't remember anything other than
 22 that.
 23 Q. How about going back to the 1970s time
 24 period, do you remember anything about Waste
 25 Conversion during that time period?

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1 A. I do not.
 2 Q. Okay. Want to take a couple minutes
 3 just to get some water?
 4 MR. AGNELLO: No, but if you do --
 5 MR. DAVIES: I was asking him.
 6 MR. AGNELLO: Oh, okay.
 7 THE WITNESS: No, I'm fine.
 8 MR. AGNELLO: If you need to go, you
 9 just let us know and we will do that.
 10 MR. DAVIES: I'm going to quickly get
 11 some coffee.
 12 (Brief recess.)
 13 BY MR. DAVIES:
 14 Q. A little while ago when you were
 15 outlining for me the various steps in the process,
 16 the production process you described cleaning the
 17 product by putting it into a degreaser?
 18 A. Yes.
 19 Q. Could you just describe for me a little
 20 bit about what that involved, what the degreaser was,
 21 what it looked like, for instance?
 22 A. Okay. Degreaser was about as long as
 23 this table.
 24 Q. And this table, just so she knows, is 30
 25 feet long, does that round right?

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1 A. Yes.
 2 MR. AGNELLO: Whatever the witness
 3 says.
 4 THE WITNESS: Yes. It was
 5 approximately 15 feet deep. And --
 6 MR. AGNELLO: Just deep means high?
 7 THE WITNESS: Yes. Down in the ground.
 8 About maybe three feet wide. What else would you
 9 like to know?
 10 BY MR. DAVIES:
 11 Q. Do you know whether it would be so much
 12 higher than the pickle bath?
 13 A. Yes, in order to degrease the solvents
 14 have to be cooled so that they will condense and stay
 15 down in the bath. So you have to have these rings,
 16 these cooling rings around the top and you have to
 17 have a whole series of them.
 18 Q. What solvents did you use, let's say,
 19 starting in the early to mid-1970s?
 20 A. In the degreaser?
 21 Q. Yes.
 22 A. Trichloroethylene.
 23 Q. Did you use any other solvents for any
 24 other operation in the facility?
 25 MR. AGNELLO: Same time period?

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1 MR. DAVIES: Yes.
 2 THE WITNESS: We used small amounts of
 3 other solvents to clean some of the tools.
 4 BY MR. DAVIES:
 5 Q. Do you recall what those solvents were?
 6 A. Let's see. MEK. Acetone. I don't
 7 recall the others.
 8 Q. And what would you do with these
 9 solvents when you were done using them?
 10 MR. AGNELLO: This is the other
 11 solvents he just referenced?
 12 BY MR. DAVIES:
 13 Q. The MEK, the acetone, any other solvents
 14 you used besides the TCE?
 15 A. They would be drummed, if they had not
 16 evaporated, they evaporated rapidly. But any liquid
 17 part that had been used was drummed, identified.
 18 Q. And what was done, it was drummed, how
 19 was it handled?
 20 A. You know, we would get a contractor to
 21 take it, I suppose. I don't know, I didn't get into
 22 that.
 23 Q. Do you recall who did get into that, who
 24 was involved with the waste disposal for these drums?
 25 A. Purchasing would set up the contract in

13 (Pages 46 to 49)

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1 conjunction with the plant engineer and maintenance
 2 group who would make the decisions on where they
 3 wanted to go.
 4 Q. So now going back to early, mid-'70s, do
 5 you recall who was in maintenance?
 6 A. Early, mid-'70s, the group was directed
 7 by Mr. Bob Zimmerman. He was our plant engineer.
 8 Q. Anyone else in the group at that time?
 9 A. You want names of the other people in
 10 his group?
 11 Q. Yes.
 12 A. Jack Schurr was an engineer. I can't
 13 think of the other names.
 14 Q. Do you remember the name John Kemmerer?
 15 A. Sure. He wasn't in that group.
 16 Q. What did he do?
 17 A. John Kemmerer is a process writer for
 18 the production control department. He also works or
 19 worked in the lab at one time. In the '70s he did
 20 work in the lab, in the beginning of the '70s. He
 21 definitely not with the engineering or maintenance
 22 department.
 23 Q. Can you think of the names of any other
 24 individuals in those groups?
 25 MR. AGNELLO: Well --

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1 BY MR. DAVIES:
 2 Q. Or --
 3 MR. AGNELLO: -- you said groups, are
 4 we still with the maintenance?
 5 MR. DAVIES: Well, he said maintenance.
 6 MR. AGNELLO: Plant engineering.
 7 MR. DAVIES: And engineering, right.
 8 THE WITNESS: I should be able to but
 9 I, especially back in that era, I don't remember who
 10 they were.
 11 BY MR. DAVIES:
 12 Q. Do you remember the name of the
 13 companies that would have hauled away the drums,
 14 solvents, other than the TCE back in the mid to late
 15 1970s?
 16 A. No, I don't. You're asking who took the
 17 other solvents, not the TCE?
 18 Q. Correct.
 19 A. I can't answer that, I don't know.
 20 Q. Do you remember who took --
 21 A. The --
 22 Q. Go ahead.
 23 A. Just to elaborate, the amounts were very
 24 small, you might be talking about, I don't know, we
 25 dispensed from tanks that were only about, you know,

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1 maybe two feet by maybe ten, 12 inches in diameter,
 2 something like that and the amounts were so small, I
 3 don't know where they went. All I know was they were
 4 drummed, they would keep them in a drum and send them
 5 to whomever they contracted with.
 6 Q. Do you recall the size of the drums that
 7 they were kept in?
 8 A. Yeah, they would -- they were not
 9 55-gallon drums, they would be the next one down,
 10 probably like a 30-gallon, something like that.
 11 Q. Now, during the same time period, early,
 12 mid-1970s, do you recall whether the facility used
 13 something what you would call industrial waste
 14 solution or had something called industrial waste
 15 solution?
 16 A. Industrial waste solution?
 17 Q. Yes. There was a document that I saw
 18 that name, I was just going to ask you whether it was
 19 the same as the pickle, pickle bath?
 20 MR. DAVIES: Let me have this marked
 21 first and I'll show it to you.
 22 (Exhibit Curran-1, 4-page Letter dated January
 23 17, 1993, marked for I.D.)
 24 BY MR. DAVIES:
 25 Q. I'm going to show you a document which

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1 is marked as Curran-1. It's a January 7th, 1993
 2 letter. I'll just ask you to just take a look at it
 3 for a minute. Just to give you the heads up, I'll be
 4 asking you about the second numbered paragraph when
 5 you're done but take your time.
 6 MR. AGNELLO: Why don't you read the
 7 entire document, it's three-and-a-half pages or so.
 8 THE WITNESS: Do I recognize the term,
 9 no.
 10 MR. AGNELLO: Wait for the question.
 11 He wants you to read it, now he's going to ask you
 12 something.
 13 BY MR. DAVIES:
 14 Q. Were you involved in the preparation of
 15 this letter?
 16 A. Yes.
 17 Q. Do you recognize -- is that your
 18 signature on the bottom of the last page?
 19 A. Yes.
 20 Q. Now, let me ask you in the second
 21 numbered paragraph it references a waste stream
 22 designated as industrial waste solution, do you
 23 recall what that refers to?
 24 A. Yes.
 25 Q. Okay. And is that one of the waste

14 (Pages 50 to 53)

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1 streams that we've talked about today?
 2 A. I'm trying to think of the waste streams
 3 we talked about today so far. We talked about the
 4 acids.
 5 Q. We can go one by one.
 6 A. It's not the acids.
 7 Q. It's not the acids. Is it the spent
 8 solvents from the degreasing operation?
 9 A. No.
 10 Q. Could you tell me what waste stream it
 11 is referring to?
 12 A. Yes. During the -- we had a two-week
 13 shutdown period for maintenance purposes every
 14 summer, during that period we would clean all of the
 15 machines, all of the drawing machines and we
 16 collected the solutions that came off of that and we
 17 were always afraid that maybe somebody would use
 18 something like acetone to clean up around the
 19 machines, so we had them tested, traces were found of
 20 some of the solvents and I know that from the time
 21 that I went with Handy & Harman that we were told,
 22 for instance, if you were helping with the shutdown
 23 in any way and they at times would press people like
 24 myself even if I was in production control to go out
 25 during that shutdown period to supervise, to make

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1 sure everything was being done right. That sort of
 2 combination most of it was water, it also had like
 3 some just sludge from around the machines in it and
 4 that was all taken off as -- I had forgotten this
 5 term but I think this is what it's referring to and
 6 we would have that just once a year and we would get
 7 it out of there soon after our shutdown period.
 8 Q. And do you recall how this material,
 9 which I'll just refer to as industrial waste
 10 solution, how it was stored?
 11 A. You mean after we took it off the
 12 machines?
 13 Q. Correct.
 14 A. It would have been in 55-gallon drums.
 15 Q. And do you remember who disposed of this
 16 material, let's say starting back as early as you can
 17 remember to begin with?
 18 A. I don't know. Again, I, you know, I
 19 think I can talk about a period, you know, after like
 20 '85 but I don't know who they were using during the
 21 '70s. I have no idea.
 22 Q. Okay. Let's go back to the degreaser
 23 where we were a couple minutes ago.
 24 A. Okay.
 25 Q. You mentioned that the degreaser was

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1 about 15 feet deep, do you recall, can you estimate
 2 about how high the actual solvent would go in that
 3 machine?
 4 A. Yes, it was about four, five feet.
 5 Q. And do you recall how often you would
 6 need to change the solvent material in the degreaser?
 7 A. I don't -- it was not on a regular
 8 basis. It had a still where we were able to condense
 9 the trichlor that was not in a liquid state, we would
 10 condense that and, you know, the dirt, the metal
 11 would drop out of it and then that condensation from
 12 it is pure and we would use that over and over and
 13 over. So I can't answer that, I don't know.
 14 Q. Do you recall how you removed the
 15 solvent when it was spent?
 16 A. The solvent never really became spent.
 17 It could be used almost indefinitely, that is, the
 18 part that was distilled. The grime and the metal
 19 and, you know, the dirt, so to speak, that came off
 20 the tubes gathered in the bottom and we would clean
 21 that out, you know, I don't know how often that
 22 happened but, you know, they would pump the good
 23 trichlor into drums, get the whole degreaser empty
 24 and then they would go in with shovels and dig out
 25 this stuff and put it in drums.

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1 Q. Do you recall the size of those drums?
 2 A. 55-gallon.
 3 Q. And do you recall about how many drums
 4 you would need to use just for cleaning the degreaser
 5 at one time?
 6 A. I would just be guessing. I'm not going
 7 to guess on something like that. I just wasn't close
 8 enough to it, I don't know.
 9 Q. Can you estimate whether it was more
 10 than 20 or less than 20? 25 drums?
 11 MR. AGNELLO: Again don't guess.
 12 THE WITNESS: I can't because I can
 13 remember witnessing soon after we had it dried out
 14 and one, during one of our periods and I was
 15 astounded at how little was in the bottom. In fact,
 16 I was quite annoyed that we were doing it when I saw
 17 what happened. So I can only assume that they were
 18 guessing at when it needed to be done. It was not
 19 frequent, though, what I would call frequent.
 20 BY MR. DAVIES:
 21 Q. Do you know who Handy & Harman used to
 22 remove these drums of dirt, muck, whatever you want
 23 to call it?
 24 MR. AGNELLO: Period of time?
 25 THE WITNESS: During what period?

15 (Pages 54 to 57)

Thomas M. Curran

December 2, 2004

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1 A. No.

2 Q. How about later, let's say working
3 backwards from the last years you were there, 2000,
4 2001, was there a classification that you remember?

5 A. No. I should but I don't remember.

6 Q. Do you know whether the facility, at
7 least until the time you left, kept those records,
8 the RCRA records?

9 A. The records for like you talking about
10 the '80s, '90s, 2000?

11 Q. Yes.

12 A. Yes, we have records.

13 Q. And do you recall where in the building
14 those records are kept?

15 A. Yes, they would probably be with the
16 environmental engineer.

17 MR. DAVIES: Why don't we just take a
18 couple of minutes.

19 (Brief recess.)

20 BY MR. DAVIES:

21 Q. A little while ago we were going through
22 the different processes, you discussed a little bit
23 the furnace that was used for annealing.

24 A. Yes.

25 Q. Was there any waste streams associated

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1 with that process?

2 A. No.

3 Q. Looking into waste streams now we've
4 talked about the pickle bath, talked about the
5 degreaser which used TCE as you recall. You
6 discussed the use of some other solvents such as MEK
7 and acetone for cleaning. And we talked about the
8 industrial waste solution. Now, are there any other
9 waste streams that you recall being generated in the
10 production process at the facility?

11 A. Yes, there was a waste stream that came
12 off our polishers. It was mostly water but whatever
13 was in the polishing belts, you know, the grit from
14 those belts would be mixed in with it and some of the
15 metal that was ground would be mixed in with it.

16 Q. Do you recall whether you or anyone at
17 the facility ever tested that waste stream at any
18 time?

19 A. I can't recall it being tested but it
20 must have been because I think they knew exactly what
21 was in it.

22 MR. AGNELLO: But again don't guess.
23 Only what you know.

24 THE WITNESS: I won't go any further
25 with it then.

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1 BY MR. DAVIES:

2 Q. Do you know what metals were in the
3 waste stream?

4 A. From the polisher?

5 Q. Correct.

6 A. Yes. There would have been those metals
7 that were in the stainless steel.

8 Q. Tell me what they were.

9 A. That same chemistry. Yeah, it's nickel,
10 chrome basically but there would be traces of sulfur,
11 silicon, copper. And when I say traces we're talking
12 about point zero something.

13 Q. Right, parts per --

14 A. Million.

15 Q. Right. Just to clarify, you mentioned
16 nickel, chrome, is that nickel and chrome or do you
17 see that as one --

18 A. No, that's --

19 Q. -- combination?

20 A. They're separate. 300 series stainless
21 usually has like an eight to 12 nickel and a chrome
22 that's, I think it's 18 to 20 percent, something like
23 that.

24 Q. Any other waste streams that you can
25 think of?

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1 A. Yes, we had like normal oils, like a
2 10W-30, 5W-30 used to cool some of the machines and
3 some of the furnaces, things like that and we would
4 change out that oil at, you know, some maintenance
5 interval.

6 Q. Do you recall where that would be
7 stored, these oils?

8 A. Where they were stored?

9 Q. Yes.

10 A. They would have been placed in 55-gallon
11 drums and they were recycled to -- I can't think of
12 the company, somebody bought them from us and then
13 recycled them, used them again.

14 Q. How about the waste stream from the
15 polishers --

16 A. Yes.

17 Q. -- do you know where that was stored
18 prior to disposal?

19 A. Normally, and it's not a lot, but it was
20 normally stored right at the machine itself in a
21 drum.

22 Q. And do you know who removed these drums?
23 MR. AGNELLO: Time frame?

24 THE WITNESS: If you're going back to
25 the '70s, I don't know.

19 (Pages 70 to 73)